

***IN THE CLAIMS***

Please cancel claims 1-27 without prejudice or disclaimer.

1-27. (Canceled)

Please add new claims 28-41:

28. (New) A method for expressing a mature enzyme in a plant plastid comprising:
- (a) introducing into the plastome of a plant a chimeric gene comprising:
    - (1) a modified DNA molecule that encodes a mature enzyme that is normally targeted to a plant plastid by a plastid transit peptide, wherein said DNA molecule is modified such that a coding sequence of the plastid transit peptide is absent from said modified DNA molecule; and
    - (2) a promoter capable of expressing said DNA molecule in a plastid, wherein said promoter is operatively linked to said DNA molecule,
  - (b) expressing said DNA molecule in a plastid of said plant, wherein said mature enzyme is produced in said plastid.
29. (New) The method according to claim 28, wherein said mature enzyme is normally inhibited by a herbicidal compound.
30. (New) The method according to claim 29, wherein said mature enzyme has 5-enolpyruvyl-3-phosphoshikimate synthase (EPSP synthase) activity, acetolactate synthase (ALS) activity, acetohydroxyacid synthase (AHAS) activity, acetylcoenzyme A carboxylase (ACCase) activity, glutamine synthase (GS) activity or protoporphyrinogen oxidase (protox) activity.
31. (New) The method according to claim 30, wherein said mature enzyme has protoporphyrinogen oxidase (protox) activity.
32. (New) The method according to claim 31, wherein said mature enzyme has at least one amino acid substitution compared to a naturally occurring protox enzyme, wherein said at least

one amino acid substitution confers resistance to an inhibitor of the naturally occurring protox enzyme.

33. (New) The method according to claim 32, wherein said at least one amino acid substitution comprises an amino acid substitution occurring at a position corresponding to position 240, 245, 246, 388, 390, 451, 455, 500, or 536 of the comparative alignment shown in Table 1.

34. (New) The method according to claim 29, wherein said mature enzyme produced in said plastid confers upon said plant tolerance to the herbicidal compound in an amount that inhibits growth of an untransformed plant.

35. (New) A method for expressing a mature enzyme in a plant plastid comprising:

- (a) introducing into the plastome of a plant a chimeric gene comprising:
  - (1) a modified DNA molecule that encodes a polypeptide comprising:
    - (i) a modified, non-functional plastid transit peptide, wherein said modified, non-functional transit peptide is not competent for import in a plastid, and
    - (ii) a mature enzyme that is normally targeted to a plant plastid by a functional plastid transit peptide; and
  - (2) a promoter capable of expressing said DNA molecule in a plastid, wherein said promoter is operatively linked to said DNA molecule,
- (b) expressing said DNA molecule in a plastid of said plant, wherein said polypeptide is produced in said plastid.

36. (New) The method according to claim 35, wherein said mature enzyme is normally inhibited by a herbicidal compound.

37. (New) The method according to claim 36, wherein said mature enzyme has 5-enolpyruvyl-3-phosphoshikimate synthase (EPSP synthase) activity, acetolactate synthase (ALS) activity, acetohydroxyacid synthase (AHAS) activity, acetylcoenzyme A carboxylase (ACCase) activity, glutamine synthase (GS) activity or protoporphyrinogen oxidase (protox) activity.

38. (New) The method according to claim 37, wherein said mature enzyme has protoporphyrinogen oxidase (protox) activity.
39. (New) The method according to claim 38, wherein said mature enzyme has at least one amino acid substitution compared to a naturally occurring protox enzyme, wherein said at least one amino acid substitution confers resistance to an inhibitor of the naturally occurring protox enzyme.
40. (New) The method according to claim 39, wherein said at least one amino acid substitution comprises an amino acid substitution occurring at a position corresponding to position 240, 245, 246, 388, 390, 451, 455, 500, or 536 of the comparative alignment shown in Table 1.
41. (New) The method according to claim 36, wherein said polypeptide confers upon said plant tolerance to the herbicidal compound in an amount that inhibits growth of an untransformed plant.